THE JOURNAL OF GENERAL MICROBIOLOGY

EDITED FOR

THE SOCIETY FOR GENERAL MICROBIOLOGY AND THE FEDERATION OF EUROPEAN MICROBIOLOGICAL SOCIETIES

Editors

E. A. DAWES

C. A. FEWSON R. MARCHANT C. RATLEDGE D. A. SMITH

Editorial Board

C. ANAGNOSTOPOULOS J. A. BAILEY I. E. BERINGER H. G. BOMAN I. J. BOUSFIELD R. CAMPBELL J. A. COLE J. G. COOTE D. J. COVE P. DRAPER R. R. EADY K. ESSER

R. B. GILLILAND M. GOODFELLOW

LONDON

K. GULL

D. E. F. HARRISON I. J. HIGGINS I. B. HOLLAND W. H. HOLMS M. C. JONES-MORTIMER R. F. O. KEMP A. KOTYK

R. W. LACEY P. J. LARGE TH. LEISINGER J. M. LYNCH P. H. MÄKELÄ

M. J. MERRICK B. E. B. MOSELEY

B. MÜLLER-HILL

J. R. NORRIS A. PASZEWSKI H. R. PERKINS

K. RING

R. J. ROWBURY D. G. SMITH A. E. R. TAYLOR H. TRISTRAM H. VELDKAMP

J. B. WARD

J. G. H. WESSELS S. T. WILLIAMS

G. M. WILLIAMSON

D. A. WOOD

K. S. ZINNEMANN

VOLUME II5, 1979

CAMBRIDGE UNIVERSITY PRESS

CAMBRIDGE NEW YORK NEW ROCHELLE MELBOURNE SYDNEY

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRID OF THE Pitt Building, Trumpington Street, Cambridge CB2 1RP 32 East 57th Street, New York, N.Y. 10022

© Society for General Microbiology 1979

Part 1 issued November 1979

		PAGE
ffects of Lysozyme on Bacillus cereus 569: Ruptur Enhancement of Sensitivity to Autolysins. By PERKINS	The of Chains of Bacteria and D. Westmacott and H. R.	1
Mercury-induced Loss of K ⁺ from Yeast Cells Investig Microanalysis. By G. A. J. KUYPERS and G. M. F	gated by Electron Probe X-ray ROOMANS	13
Microbial Activity in Lake Sediments with Partic Potential Gradients. By J. G. Jones	ular Reference to Electrode	19
dicrobial Nitrate Reduction in Freshwater Sediments	s. By J. G. Jones	27
Microbiological Study of Sediments from the Cun M. J. L. G. ORLANDI and B. M. SIMON	nbrian Lakes. By J. G. Jones,	37
Oimethylamine Dehydrogenase from <i>Hyphomicrobiu</i> Properties of a New Enzyme that Oxidizes Sec Meiberg and W. Harder		49
Glutamine Metabolism in Nitrogen-starved Conidia Espín, R. Palacios and J. Mora	of Neurospora crassa. By G.	59
Generation Time Statistics of Escherichia coli B Meas Techniques. By L. D. Plank and J. D. Harvey	ured by Synchronous Culture	69
Harvesting the Mushroom Crop: a Mathematical Mo	del. By D. O. Chanter .	79
in the Sensitivity of Escherichia coli to Cold S DICKINSON and M. R. W. BROWN	ate and Growth Temperature Shock. By P. GILBERT, N. A.	89
Metabolism of DD-2,6-Diaminopimelic Acid by a Mutant of Bacillus megaterium. By F. Saleh and	a Diaminopimelate-requiring P. J. White	95
Mode of Action of p-Fluorophenylalanine in Aspers Synthesis and Activity of Phosphatase Isoenzyme	gillus nidulans: Effect on the s. By M. Singh and U. Sinha	101
Immunoprecipitation of Triton X-100-solubilized My By D. B. Archer	ycoplasma mycoides Proteins.	111
Influence of the Structure of the Sterol Molecule on St <i>Phytophthora cactorum.</i> By C. G. ELLIOTT .	erol-induced Reproduction in	117
Peptide Uptake in Saccharomyces cerevisiae: Charac Shared by Di- and Tripeptides. By T. M. NISBET	teristics of Transport System and J. W. PAYNE	127
Oxygen Uptake and Mitochondrial Enzyme Activit Physarum polycephalum. By B. G. FORDE and W.	ties in the Mitotic Cycle of SACHSENMAIER	135
Changes in Surface Properties of Developing Zoospore Binding of Concanavalin A. By C. J. JEN and A.	es of <i>Blastocladiella emersonii</i> : HAUG	145

Growth Kinetics of Oscillatoria agardhii Gomont in Continuous Culture, Limited in its Growth by the Light Energy Supply. By L. VAN LIERE and L. R. MUR.
Differing Contribution of Polymorphonuclear Cells and Macrophages to Protection of Mice against <i>Listeria monocytogenes</i> and <i>Pseudomonas aeruginosa</i> . By K. Tatsukawa, M. Mitsuyama, K. Takeya and K. Nomoto
Chemotaxis Towards Sugars by Bacillus subtilis. By G. W. Ordal, D. P. VILLANI and M. S. Rosendahl
Astaxanthin Formation by the Yeast <i>Phaffia rhodozyma</i> . By E. A. Johnson and M. J. Lewis
Formate and Oxalate Metabolism in <i>Alcaligenes eutrophus</i> . By C. G. FRIEDRICH, B. BOWIEN and B. FRIEDRICH
Partial Purine Deprivation Causes Sporulation of <i>Bacillus subtilis</i> in the Presence of Excess Ammonia, Glucose and Phosphate. By E. Freese, J. E. Heinze and E. M. Galliers
Lysine Regulation of Penicillin Biosynthesis in Low-producing and Industrial Strains of <i>Penicillium chrysogenum</i> . By J. M. Luengo, G. Revilla, J. R. Villanueva and J. F. Martín
Transport and Metabolism of Bacilysin and Other Peptides by Suspensions of Staphylococcus aureus. By D. Perry and E. P. Abraham
Synthesis of Transfer Ribonucleic Acids with Uridine or 2'-O-Methylribothymidine at Position 54 in Developing <i>Dictyostelium discoideum</i> . By T. DINGERMANN, M. MACH and H. KERSTEN
Mechanism of the Inhibitory Action of Linoleic Acid on the Growth of Staphylococcus aureus. By D. L. A. Greenway and K. G. H. Dyke
SHORT COMMUNICATIONS
Lipoquinones of some Spore-forming Rods, Lactic-acid Bacteria and Actinomycetes. By A. Hess, R. Holländer and W. Mannheim Thermophilic and Thermotolerant Fungi in Poultry Droppings in Nigeria. By V. W.
Ogundero
Germination and Outgrowth of Schizosaccharomyces pombe Spores Isolated by a Simple Batch Centrifugation Technique. By R. JOHNKE and G. M. PADILLA.
Part 2 issued December 1979
Anaerobic Growth of Escherichia coli K12 with Fumarate as Terminal Electron Acceptor. Genetic Studies with Menaquinone and Fluoroacetate-resistant Mutants. By J. R. GUEST
Akinetes of the Cyanobacterium <i>Nostoc</i> PCC 7524: Macromolecular Composition, Structure and Control of Differentiation. By J. M. SUTHERLAND, M. HERDMAN and W. D. P. STEWART
Genetics of Aggregation Pattern Mutations in the Cellular Slime Mould Dictyo- stelium discoideum. By F. M. Ross and P. C. NEWELL

denosine Triphosphotose Activity of Trituichonous forty D. D. L. D. C.	PAGE
denosine Triphosphatase Activity of Tritrichomonas foetus. By D. LLOYD, D. G. LINDMARK and M. MÜLLER	301
urification of Pili from <i>Bacteroides nodosus</i> and an Examination of their Chemical, Physical and Serological Properties. By D. EVERY	309
Solutations Affecting Pigment Synthesis in Mycobacterium aurum. By V. Levy-Frebault and H. L. David	317
ffect of R Plasmid RP1 on the Nutritional Requirements of Escherichia coli in Batch Culture. By R. M. M. KLEMPERER, N. T. A. J. ISMAIL and M. R. W. BROWN	325
acillus schlegelii, a New Species of Thermophilic, Facultatively Chemolithoauto- trophic Bacterium Oxidizing Molecular Hydrogen. By A. SCHENK and M. Aragno	333
axonomic and Serological Studies on <i>Micropolyspora faeni</i> and <i>Micropolyspora</i> Strains from Soil Bearing the Specific Epithet <i>rectivirgula</i> . By M. P. ARDEN JONES, A. J. McCarthy and T. Cross	343
The Isolation and Characterization of Agarolytic Bacteria from a Lowland River. By J. A. C. Agbo and M. O. Moss	355
Inzymes of the Calvin Cycle and Intermediary Metabolism in the Cyanobacterium Anacystis nidulans Grown in Chemostat Culture. By A. D. KARAGOUNI and J. H. SLATER	369
Competition in the Chemostat between an Obligately and a Facultatively Chemolithotrophic Thiobacillus. By A. L. SMITH and D. P. KELLY	377
susceptibility to Butirosin and Neomycin B in Bacillus circulans, the Butirosin-producing Organism. By J. E. Dowding	385
The Physiology of Mutants Derepressed for Sporulation in Saccharomyces cerevisiae. By F. Vezinhet, J. H. Kinnaird and I. W. Dawes	391
A Defective Generalized Transducing Bacteriophage in Xanthobacter autotrophicus GZ29. By D. WILKE and H. G. SCHLEGEL	403
Purification and Partial Characterization of Hyaluronate Lyase (EC 4.2.2.1) from Propionibacterium acnes. By E. Ingham, K. T. Holland, G. Gowland and W. J. Cunliffe	411
The Properties of Novel Mesophilic Denitrifying Bacillus Cultures Found in Tropical Soils. By F. PICHINOTY, M. MANDEL and JL. GARCIA	419
A New, Wide Host-range, Temperate Bacteriophage (R4) of <i>Streptomyces</i> and its Interaction with some Restriction–Modification Systems. By K. F. CHATER and A. T. CARTER	431
Mutants of <i>Paracoccus denitrificans</i> Deficient in c-type Cytochromes. By J. C. WILLISON and P. JOHN	443
Mass Selection of Conditional Mating Mutants of Tetrahymena thermophila. By J. Wolfe	451
Allele Specific and Locus Non-specific Suppressors in Aspergillus nidulans. By J. BAL,	457

	EM
Properties of a Gonococcal Inhibitor Produced by Escherichia coli. By D. M. SIMPSON and C. P. DAVIS	4
Indigenous Plasmids from Phytopathogenic Corynebacterium Species. By D. C. Gross, A. K. Vidaver and M. B. Keralis	4
Formation, Isolation and Characterization of Trehalose Dimycolates from <i>Rhodo-coccus erythropolis</i> Grown on <i>n</i> -Alkanes. By P. RAPP, H. BOCK, V. WRAY and F. WAGNER	4
SHORT COMMUNICATIONS	
Spontaneous Auxotrophs in Agaricus bisporus. By T. J. Elliott	5
Specificity of Attachment of Certain Enterobacteriaceae to Mammalian Cells. By B. Sugarman and S. T. Donta	5
Cysteine Auxotrophs of Salmonella typhimurium which Grow without Cysteine in a Hydrogen/Carbon Dioxide Atmosphere. By E. L. BARRETT and G. W. CHANG	5
Preparation of Protoplasts and Whole Cell Ghosts from <i>Mycobacterium smegmatis</i> . By N. Rastogi and T. A. Venkitasubramanian	5
Isolation of a Methanol Dehydrogenase with a Functional Coupling to Cytochrome <i>c</i> . By J. A. Duine, J. Frank, JZN and L. G. De Ruiter	5.